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Agricultural Extension Work By County Agents

Paper Presented Horticultural Society, April, 1932 by A. P. SPENCH
Vice Director Orange Ext. Service

To keep within the time limit and give you anything like a comprehensive statement dealing with county agent work in this state, I can only hit the highest places and abbreviate very much on them.

We have been conducting extension work under the present plan since 1914 and even before that it was under way. Its purpose is to conduct educational work among people who cannot attend the agricultural colleges. It began as part of the educational system of the University of Florida and the United States Department of Agriculture and to this day it is still educational.

We have a staff of extension workers who have been appointed by the Board of Control and who rank as members of the faculty of the University. They are also representatives of the United States Department of Agriculture and our appointments are approved by the secretary of agriculture.

Extension work during the past years has included the entire role in agriculture, horticulture, poultry, etc. For many years production has been considered by casual observers the only activity of the farm demonstration agent. The facts are that standardization, grading and cooper-

ative effort among farmers has been about half of the program.

As a guide for conducting Extension work each Extension agent and supervisor makes a plan on January 1 covering the year's work. This plan of course is intended to fit the county's agriculture. In normal times such a plan might carry on from year to year with very little change but with the present changing conditions it must be varied from year to year. It deals with the important agricultural pursuits of the farmers.

The counties in Northwest Florida have programs for the development of livestock. There was a time in Florida when cotton would have been the main consideration but now farmers must turn their attention to other things. With this in view the county agents have worked out dairy programs to grow necessary feeds, find profitable dairy cattle, then help out in marketing the products. Several hundred dairy cattle have been bought and raised by farmers to build up commercial dairies and many have gone out to individual farmers to furnish the home supply of dairy products. The county agents have worked up cooperative orders for cattle, the extension dairyman has followed up the efforts with good management practices. This has given a distribution of good dairy cattle all through Northwest Florida and while the situation has been discouraging because of the low prices

of dairy products, many of these farmers now have good dairy cattle.

Beef cattle production has been emphasized. We have a cooperative arrangement with the Bureau of Animal Industry for beef cattle extension work. Several hundred breeding stock, mostly bulls, have been distributed in the West Florida counties. This has been done partly by the Livestock Sanitary Board and partly by the Extension Service so that now one can see a number of animals with improved blood that should improve the size and quality of the cattle of that section. This project too has met with its handicaps because of the low price of beef.

The Livestock Sanitary Board has done an excellent job in cleaning up the cattle ticks for without that change there would be little use in trying to improve the livestock otherwise. Now the territory is free and there is nothing to prevent the introduction of good stock into that area from almost any section of the country where it can be procured.

In the same area hog production is and has been the best and safest money crop for the farmer so through the boys club and the county agent work the grade and quality of hogs have been decidedly improved. This is not only a matter of getting better animals but a matter of providing feed. There is little profit unless the farmer grows his feeds and markets

(Continued on page 24.)

CITRUS COMMENTS

—BY—

Charles D. Kime, Orlando, Florida

This department is devoted to furthering horticultural interests of Florida. Letters of inquiry, discussion or criticism will be welcomed

Lime-Sulphur as a Fungicide

There are very few spray or dusting materials that used alone possess dual properties. That is, are equally effective on more than one class of insect pest or disease. A material classed as an insecticide is usually effective from the commercial standpoint on only one type of insect and is not effective on other types. For example oil-emulsion is very effective on scale insects including white-flies in the scale or embryo stage. It is not effective on pumpkin bugs, aphids, etc., but does exercise some killing power on them when they become thoroughly soaked with the material. It is not effective on rust mites or spider mites but will tend to hold them in check. Lime-sulphur ranks in about the same way. It is an effective insecticide for rust mites, red spiders, six spotted mites and their eggs. It also kills the crawlers of scale insects. But as a fungicide it is not rated anything like as high as Bordeaux. Due to the importance of the type of insects on which it is effective and to the fact that it is a weak fungicide for one of the important fungus diseases, Lime-Sulphur has become the most popular spray material in grove use today.

In combination with other materials some of the sprays will prove commercially effective on more than one type of insect and disease. But such dual roles must be a well established procedure and not based on guess or work done in other sections of the country. The Lime-Sulphur form of insecticide has not been very successfully combined with any other material to make it also effective as a fungicide. It has however been combined with nicotine and derris for aphid control. Its fungicidal value is restricted to a slight effect on Scab when properly applied both as to concentration (strength) and as to time of the application. It has however certain secondary considerations that make it more valuable than would otherwise be the case when used in a fungicidal role.

Our worst fungus diseases on orange and grapefruit are melanose,

stem-end rot and scab. The last not being bad on round orange but is often severe on sour-orange, lemon and some tangeloes, grapefruit, King orange, Temple. The stem-end rot of both grapefruit and oranges is caused by the effects of two fungi, *Phomopsis citri* and *Diplodia (nataleensis)*. Of the type types *Phomopsis* is much more prevalent and is common thruout the citrus belt. It occurs on fruit and leaves and green twigs as the well known brown spotting familiar to everyone. Lime-Sulphur is not considered effective in controlling this disease. However the greatest percentage of trouble occurs in groves carrying quantities of dead wood. Preventing and removing dead wood is considered and actually is an effective remedy. This in turn goes back to effective insect control as one of the methods used to cut down losses from stem-end rot and melanose. Purple scale and other scales are one of the main causes of stem-end rot and melanose infestation. As a preliminary to a period of severe rotting we can often recall a year or so before, excessive scale infestation. This in turn caused an accumulation of dead wood. The dead wood being essential to the propagation of *Phomopsis citri*, it would be impossible to get a severe rotting condition unless such wood were present in quantity. So that at first we have scale causing dead wood directly and then a year or so later an increase in rotting in either grapefruit or oranges is noted. Other causes than scale will also bring on an increase of dead wood but in well cared for groves scale is the more common cause.

In controlling attacks of scale, oil-emulsion is the most effective remedy and in bad cases is usually chosen. However continued use of lime-sulphur will give a certain percentage of scale control and it obviates the necessity of following oil sprays with a rust-mite control which must usually be done whatever other spray is used in order to insure bright fruit. So rust mite control is not obviated thru the use of oil-emulsion but scale

control may be avoided thru the use of lime-sulphur.

When spraying is being resorted to and seems necessary because of heavy attacks of melanose a more feasible plan to try out first when considered from all angles, is to take lime-sulphur as the main spray used in the grove but "work in" an oil-emulsion spray if needed for scale and then follow with lime-sulphur along during the year as may be required for rust-mite control. However if a direct control for melanose must be made and the above indirect method does not seem feasible, then a Bordeaux must be used if any real control is to be secured. Bordeaux is dangerous and always leads to scale infestations. To partially offset this risk the Bordeaux is combined with oil as an emulsion giving the Bordeaux-oil combination. In this combination we have an effective fungicide and an insecticide that is partially effective in controlling scale. But being a fungicide it kills the friendly fungi as well as the disease producing fungi. As an oil combination it is not as effective as oil alone would be. So a loss of insect control is the net result of its use. This is serious from the angle of both white-flies and purple and other type scales, as many users of Bordeaux can testify. Since it must be admitted that melanose is not effectively controlled by Lime-Sulphur the thing that should be done is to work the grove up to the point where melanose is no longer a disease factor, which can usually be done, after which time the Lime-Sulphur solution is the most effective spray material that can be used. This same situation is true of grapefruit where scab control is a problem; with the difference that scab can be partially held down by Lime-Sulphur direct.

Oranges become immune to melanose when about 1½ inches in diameter which is a small size fruit. They are rarely infected after reaching that size. Grapefruit become immune when about 2½ inches in diameter. Grapefruit also becomes immune to

(Continued on page 22)

Citrus Insect Control

By J. R. Watson

The topic assigned to me is rather inclusive to be covered in the few minutes at my disposal. I will confine myself to some remarks concerning the general situation as regard some insects in citrus groves at the present time, and a very preliminary report on work on citrus insects which is now in progress chiefly at the Lake Alfred Station under the charge of Mr. Thompson.

As you all know, this has been a very unusual winter—warm and dry. In regard to temperature, I will give you the records for Gainesville. The conditions represented here, however, were statewide and will apply to the entire citrus belt within a few degrees. The mean temperature for November was 5.4° above normal. For December, 10.8°. For January, 7.2°. For February, 11°. For March, 1.3° above normal. The average temperature for these five months, November to March inclusive, was 66.7°. This is only 2.6° cooler than the normal temperature for April and 3° warmer than the normal temperature for March. In other words, we had early April weather throughout the entire winter. Not only was the winter very warm but it was very dry. The precipitation data, of course, will vary in different parts of the state, but the drouth was pronounced over most of the citrus belt—less so, perhaps, on the lower East Coast. In spite of the drouth, however, we had many foggy mornings, particularly during January and February. We will refer to this again later. This April weather in the middle of the winter naturally resulted in the appearance of many insects whose activities are usually not much noticed until April. I have been asked many times what the effect of this early starting of these insects may have on their abundance later in the season. Many people have expressed the feeling that because these insects got an early start that they are going to be abnormally abundant and harder to control during the remainder of the season. In many cases citrus insects did get an early start. There were more mealy-bugs and red spiders in evidence in February than we remember ever to have seen before. Rust mites were not abnormally abundant but were considerably in evidence. There were a good many scale crawl-

ers, both the purple and the Florida red.

But it is important to note that the predators and parasites also got an early start; ladybeetles and syrphus fly larvae were much in evidence in colonies of aphids. But perhaps most noticeable in this connection was the growth of the entomogenous fungi during the winter. It is not unusual for the scale fungi, such as the red-headed scale fungus, the white-headed scale fungus and the black scale fungus to make more or less growth during the winter, but this winter there was a marked activity by both the red aschersonia and the brown fungus. That these entomogenous fungi should have developed in such a dry season is very instructive. We have mentioned above the fact that the winter was characterized by many foggy mornings. It is undoubtedly these foggy mornings, together with the abnormal high temperatures, which were responsible for the growth of these entomogenous fungi. In other words, we have been taught this winter that it is not the heavy rains of the summer that promote the growth of these fungi so much as it is the high humidity.

The behavior of the green citrus aphids has been very unusual this winter. Ordinarily we have considered that after the middle of March it was hardly worthwhile under normal grove conditions to spend any money fighting aphids. By that time the growth has usually commenced to harden up and the young fruit is sufficiently developed to withstand attacks of the aphids. But this year because of the drouth conditions, as you all know, the spring flush of growth has been very prolonged and the main flush very late. Indeed, in many sections there was more bloom in citrus groves last week than in any previous week, and more aphids. Many growers found it necessary to dust or spray their groves for aphids a month later than we ordinarily consider the last date necessary. Aphids did not increase very rapidly during January and February in spite of the high temperatures. This was due to two causes: In the first place, the lack of succulent food. What new growth did come out seemed to be too dry and unattractive to serve well as food for aphids. This was shown by the fact that a considerable portion of the aphids developed wings on apparently very young foliage. The formation of wings by the citrus aphids

is always a sure indication that the food plant is becoming less suitable for their development. A second cause which kept the aphids down during January and February was the fungus disease Empusa. It was much in evidence and quite effective during those months. This again was undoubtedly the result of the foggy mornings. During the latter part of March and the first half of April these fogs have not been so common, with the result that we have had less control by the Empusa, and a marked rise in the number of aphids during March and April.

Two points in regard to the control of aphids. As has been stated many times before, by all means the most effective and thorough means of controlling aphids on young trees is by dusting under tents, and on old trees, by dusting the grove with a power duster, providing a time can be found when there is no wind and the temperature is not too cold—i. e., below 60°. The results this past year fully corroborate these previous conclusions. It has been our experience heretofore that a 3% nicotine sulphate lime-dust was necessary to get a good kill of aphids, but this year we have seen some very thorough kills with a 2% dust applied by dusting machines which are equipped so that the dusts can be mixed in the hopper. With these machines the kill has been fully as good as with a 3% dust which is made in a barrel and then has to be transferred to a duster, or fully as good as the commercial samples of 3% dust. In other words, it looks as if fully one-third of the nicotine is lost in transferring from the barrel where it is mixed to the hopper of the duster; or in the case of dust which is purchased, two such transfers are necessary. Practically, this means, of course, that this transfer should be as rapid as possible with as little exposure of the dust to the air as possible. However, there is another factor which may account for the good kill with a 2% dust when mixed in the machine itself, i. e., that the mixture gets hot and this high temperature probably results in rapid liberation of the nicotine. We do not want to act as sales agents for any particular make of duster, but feel it to be our duty to call the attention of citrus growers to this very important consideration in buying a duster which they may want to use in combatting the citrus

(Continued on page 25.)

*Address before the Florida Horticultural Society, April 21, 1932.

The Agricultural Work Centered at the U. of F.

(Continued from last month)

Work of State Plant Board

J. H. Montgomery

It has been said that constant dripping of water wears away the stone. It might be said with equal force that constant repetition wears away the patience of the listener. At the risk of wearing out your patience, it is my purpose to repeat some things which have been told you at these annual meetings for the past sixteen years, or since the time when the state legislature, at the behest of the growers of the state, enacted the law creating the State Plant Board. I do not propose, however, to go into any great detail as to the organization of the Plant Board work and how that work is done by the several departments operating under the Plant Commissioner's direction, although some reference, in a more or less general way, will be made to this.

It will be recalled that the Plant Act was passed at a time when the citrus industry was thought to be, and really was, threatened with disaster through the presence in our groves of a new and malignant disease which came to be known as citrus canker. To combat this condition required concerted action upon the part of State and Federal governments and the industry. There was a condition which verged upon panic. A campaign of eradication was planned and carried forward which not only was successful but which made horticultural history and constituted a precedent of accomplishment which has served as a basis for similar projects in crop pest control and eradication which have since been carried forward. To those who participated in this campaign and to those who had intimate knowledge of the conditions then existing the campaign and the results secured stand out as a record of efficiency and accomplishment. The same may be said of the more recent danger to which the state's horticulture was exposed and from which it was rescued. I refer to the Mediterranean fruit fly.

No individual in any way connected or associated with that activity need be ashamed of the connection. On the contrary, it is a source of pride. In this instance we again have a record of accomplishment. I am not going to attempt to combat the views of those relatively few individuals who hold opinions which differ from mine as to the necessity for the fruit fly eradication campaign, the manner in which it was conducted or the methods used. The cold, hard facts are: (1) The Mediterranean fruit fly was here in our groves in large numbers; (2) the Mediterranean fruit fly is a major pest. (3) the eradication effort has apparently been successful. There is no evidence to the contrary. Those facts are unescapable. There is one other fact, namely: Had there been no state regulatory body charged with the duty imposed upon the Plant Board, the job could not and would not have been done, no matter how much money the Federal government might have made available for the purpose, and no matter how insistent the industry might have been that the attempt be made.

Plant quarantine is primarily for the protection of agriculture against plant pests. Plant quarantine is a weapon which must be used with discretion and judgment. There must first be justification. There must next be ability, fairness and firmness in administration. There are plant pests which should be prevented entry and dissemination. This can only be done through the agency of plant quarantine. The means may be either by embargo or restriction and regulation. The former is justified only in the case of major pests. The latter is the commoner and usual method. The Plant Board is attempting to accomplish its objective through three main agencies: Nursery inspection, grove inspection, port and gateway inspection. No nursery stock may enter the state or be moved within the state unless and until it has been properly inspected, found to be safe, and so certified. No horticultural material from foreign countries may enter unless it is in compliance with the requirements of the quarantine regulations of both Federal and State Governments and passes the searching scrutiny of our inspectors at ports of entry. Supplementing these two

services and as an added safeguard, there is maintained a grove inspection service. The plantings of the state are under patrol to discover the presence of any major pest which may, in spite of our efforts, have secured a foothold. These are the three main agencies made use of by the Board for your protection. The limitation on efficiency is that of resources. It is our feeling that Florida's protective work is being well handled. We have no false modesty in this respect. We think that we are doing a very good job, but we also think that there could be improvement and strengthening. With our present personnel we are inspecting commercial nurseries in the state an average of four times a year. In the southern area the nurseries receive inspection at even more frequent intervals. In the more northern areas, where climatic conditions are quite different, but three inspections per annum is the rule. At the ports of entry every ship from a foreign port is boarded and inspected by our men. Every airplane is likewise handled. With our present grove inspection force we are able to make inspection of our grove plantings at the rate of one coverage every two years. None of these activities can be curtailed without a proportionate weakening of protection. Just a very few figures to show the scope of our work:

In the state there are 1,846 nurseries and 219 narcissus plantings under inspection and certification.

During 1931 4,138 boats and planes from foreign ports arrived at Florida ports and were inspected. This is somewhat less than during normal times.

There are 24,323,850 citrus trees in the state inspected biennially.

At Miami last year I told you of the huge development of international air transport centering at Miami and the relation this development bore to plant pest introduction. I told you of the more than 22,000 miles of air lines operated by Pan-American Airways with an equipment of almost 150 planes connecting Florida with the West Indies, Mexico, Central America and South America. I told you of plans then being formulated to operate large 40-passenger planes in this service. I now tell you that these plans have been

*Talk delivered at annual meeting of Florida Horticultural Society, Gainesville, April 20, 1932.

carried out and these large planes are in daily service between Miami and Havana, and the passenger traffic by air into Miami has been greater during the past year than any previous year, notwithstanding an otherwise curtailed passenger traffic. Of even greater interest is the recent survey made by the Goodyear-Zepelin Company looking toward inauguration of air service by lighter-than-air transport from Miami south. How soon this plan will be put into effect I cannot say. When it is, our pest-risk problem will be correspondingly increased. It is said that a schedule of 56 hours from Miami to Buenos Aires will be maintained. That is bringing our South American neighbors and their plant pests mighty close to us.

Home Demonstration Work as Related to Horticultural Interests

By Flavia Gleason, State Home Demonstration Agent

The Home Demonstration Organization is a part of the Cooperative Extension Service in Agriculture and Home Economics.

In home demonstration work we endeavor to carry the best information available from the United States Department of Agriculture Extension Service, Bureau of Home Economics, College of Agriculture, University of Florida, School of Home Economics, Florida State College for Women and the research laboratories to the rural women and girls to aid them in the solution of some of their many problems in house keeping and home making.

There are 15,927 rural women and girls who meet regularly at least once each month to receive instruction from thirty county home demonstration agents in Florida.

In the Extension Service men and women are promoting a Live-at-Home program. The home demonstration part of it deals directly with the home garden, home orchard, the poultry flock and milk supply as a means of good nutrition for the farm family, for increasing the financial income and for developing more abundant living. At this time we will deal with only those phases most closely related to horticultural interests.

Home Gardens

Recognizing the need for fresh fruits and vegetables in the diet at all seasons of the year the home demonstration organization mapped out an educational program in gardening and perennial plantings. One of its important objectives is an ade-

THE CITRUS INDUSTRY

quate supply of fresh fruits and vegetables in every rural home and a plentiful and proper use of these products.

A second objective is the beautification of the Florida home through the planting of the many kinds of valuable economic ornamentals, that can be grown so easily.

The home garden program is especially important. The home garden is more valuable than is often realized in saving grocery bills and in maintaining a healthy family. The garden always makes an important contribution to the farm living. In times of financial stress or disaster it affords invaluable aid to the farm family. How to feed the family adequately? How to make lessened income stretch to meet family needs? How to keep the members of the family in good health? These questions the well managed garden helps to answer.

The garden is always a good starting point—a first resource when at the end of a bad year the farmer and his family face the new crop season. Out of the garden must come much of the living until the new crop is sold. Nor is it enough to encourage the planting of gardens by young and old. Extension workers urge insistently the growing of a good garden, the cultivating, fertilizing and working it through the entire season. Fresh vegetables in quantity and variety, a generous table, summer and winter, even in difficult times is what the well-tended home garden gives the farm family.

The home demonstration agents are carrying the perennial planting and gardening program all over the state regardless of the section. They are visiting rural homes, and arousing the interest of the families in the program. Contests are being staged to encourage the women and girls to grow a wide variety of vegetables, and to serve every day in the year fruit and at least two vegetables from the home garden.

Splendid cooperation has been secured from seed dealers, nurseries, fertilizer concerns, Women's Clubs and individuals in promoting better gardens and more perennial plantings. Interest has been stimulated through monthly letters carrying timely information; a utilization score card; garden scores; suggestive canning budget for the family; exhibits; posters; letters; demonstrations; all-year garden contests; and awards. County Councils composed of representatives from the various home demonstration clubs in the county, have in some instances bought seeds in wholesale lots, assorted them into penny packets and

Nine

distributed them to club members. This enabled each member to obtain an assortment of good seed at small cost.

The possibilities in growing new vegetables and the opportunities for the enrichment of the diet through the use of new vegetables and fruits are being demonstrated, and the women are eagerly accepting the instructions. At present there are 8,110 women and girls growing home gardens under the direction of home demonstration agents.

Calendar Orchards

For several years home demonstration agents have been stressing the growing of calendar orchards. They are using as their guide a plan worked out by Dr. Hume. There is considerably more interest in the calendar orchards than previously. The number of fruit trees planted in the calendar orchards this year exceeded those of last year but the outlay of cash in securing desirable plantings keeps the number from increasing as rapidly as we would like to see it. However, there are 1,611 women who are developing these calendar orchards at present according to the plans mentioned.

Club girls in beginning their garden programs are required to plant at least six perennials during the first year, and it is hoped that by the end of the fourth year the trees or vines planted will be yielding and supplying the family table and perhaps a surplus for the market a little later.

Food and Nutrition

The home demonstration agents received more calls for information along the lines of foods and nutrition last year than any other phase of our work. Twenty-seven per cent of their time was given to promoting the serving of well balanced meals, satisfying and attractive foods, school lunches that provide for growth and protection and the need for producing and using Florida products in this way.

In order to meet many requests and to render service to a larger number of people we prepared a bulletin on Economical Meals for Florida Folks, material on Helping Florida Feed Herself and Saving the Surplus. We have not issued more appreciated, timely and usable publications.

The agents are constantly promoting the use of Florida fruits and vegetables and demonstrating ways of putting their recommendations into practice.

Although we do not have a complete report of all of the food conservation work conducted in the state we do know that there has been an

(Continued on page 20.)

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CONGRATULATIONS

In the recent democratic primary, Florida citrus growers were more vitally concerned and evinced greatest interest in the contest for the position of Commissioner of Agriculture. The Commissioner has direct control of the enforcement of all laws affecting agriculture, and as such he exerts an influence upon the welfare of the citrus industry by far greater than that of any other individual in the state.

For the past eight years, this important position has been held by Hon. Nathan Mayo, who was a candidate to succeed himself for another term of four years. That Mr. Mayo won with a majority of more than twenty thousand against so strong a contender as Senator King is the highest tribute to his past performance and exceptional efficiency in office. The splendid support given him in the leading citrus producing counties is evidence that citrus growers appreciate the good work he has done in carrying out those laws which so materially affect the welfare of the industry.

The Citrus Industry tenders its hearty congratulations to Nathan Mayo upon his splendid victory—and its congratulations to the citrus industry of the state upon the wisdom of its choice in voting to continue Mr. Mayo in office.

WE WANT TO KNOW

Perhaps some of the Florida newspapers and Florida citizens who have been telling us so much about the "chaotic" conditions prevailing in the citrus industry of Florida and the "ideal" conditions which prevail in the citrus industry of California, can explain to us why, in spite of such contrasting conditions, Florida oranges brought an average of 65 cents per box more than California oranges on Northern auction markets during the past five months.

Of course, we may say that Florida oranges are better than California oranges (a claim which will be stoutly denied by California) but even so, if California's system is so perfect and our own so faulty, should not that go far to-

ward offsetting any advantage we might have through the production of superior fruit?

Judged by actual returns to the grower, the real difference in favor of Florida growers is even greater, since it costs California growers approximately 25 cents per box more than Florida growers to lay their fruit down in the Northern markets. This means that the average Florida grower received on the tree 90 cents per box more than his California competitor.

There is plenty of room for improvement in our marketing methods, and too much thought cannot be given to this feature of the industry, but telling ourselves that all our citrus ills are due to "chaotic" conditions in the industry, while the producers of other sections are operating under "ideal" conditions, will get us nowhere. Nor is it safe to assume that conditions and methods which may be successful in other sections would be equally successful here.

As a matter of fact, Florida's marketing problems, like our other citrus problems, are peculiar to Florida, and must be solved, if solved at all, in the light of conditions existing in Florida—and they will probably be solved by Florida men who know those conditions intimately and who are competent to judge the situation with an eye single to Florida's citrus interests.

OTHER CONGRATULATIONS

And while we are on the subject of congratulations, we desire to extend to Dr. E. C. Aurin and to James C. Morton our congratulations upon their election as president and vice-president, respectively, of the Florida Citrus Growers Clearing House Association.

We doubt if two men of better judgments, greater knowledge of the needs of the citrus industry in Florida, or higher efficiency in carrying out the purposes of the Clearing House Association could have been found in all citrus Florida. We therefore extend to the Association itself an even greater degree of congratulation upon the choice of these leading citrus growers as head officers of the Association.

AND STILL MORE CONGRATULATIONS

The election of William Edwards, leading citrus grower of Zellwood and one of the best known citrus factors in the state, as president of the Florida Citrus Exchange, is further occasion for congratulations.

Few men in the citrus industry of the state are better qualified for this high position in Florida's co-operative citrus marketing organization. The honor conferred upon Mr. Edwards by the directors of the Exchange, will we feel sure, be reflected in the operations of the Exchange under his leadership.

Hadar, the citrus magazine of Palestine, recently issued a special "exhibition" number of more than two hundred pages devoted to the citrus industry of the Holy Land. The issue is printed in both English and Hebrew and in its subject matter and arrangement is entitled to rank with the best efforts of periodical publications in other lands.

Report of Citrus Conditions In Lower Rio Grande Valley

May 6, 1932.

Honorable Nathan Mayo,
Commissioner of Agriculture,
Tallahassee, Florida.

Dear Sir:

As instructed by you I have made a trip to the lower Rio Grande Valley of Texas for the purpose of reporting on citrus conditions there and prospects for this year's crop.

Since I spent only ten days in Texas my conclusions are drawn from very limited data and such information can be regarded as only superficial at best.

The principal citrus plantings in Texas are on a heavy silt loam soil deposited by floods from the Rio Grande. This soil is wonderfully fertile. So fertile, in fact, that very few groves have ever been fertilized. Tree growth is very rapid. Of course it is impossible for this program of non-fertilization to be continued indefinitely since the removal of large crops of citrus fruits is a drain on the soil and the elements that are removed must be replaced if fertility is to be maintained. The soil fertility is not abridged to the fit 1-1-1½ requirement of citrus, as recommended by our experiment station, but is nearer 5-1-1. The older trees seem to be showing this unbalanced condition in the size of the fruit and in the scanty foliage. Some of the older groves are developing a marked chlorosis which is probably due to soil deficiencies, particularly phosphorus, copper, iron and manganese, since there is abundant evidence that the nutrifying organisms are active, even at the high pH that exists in these soils. It is also likely that salt accumulation is a factor in the production of small fruit in these older groves. The irrigation water is drawn from the Rio Grande which carries considerable salt, principally as sulphates. At certain seasons this salt is so strong as to leave a white crust on the soil in the grove as it evaporates. The result of a few years' irrigation with this water is to build up a pH of 8.50, or higher. Some of the growers told me that they had used as high as five thousand pounds of sulphur per acre in an effort to hold down this alkalinity. The growers told me that a good many groves have been killed by seepage of this irrigation water from canals that are

not lined with cement, and other groves, on soil where the salt is not leached out by rain, are showing marked damage.

On account of the semi-arid conditions in Texas, fungus diseases are of little or no commercial importance. The use of fungicides is unknown and there is practically no damage from melanose or scab. Some of the growers told me that the roots of the trees are sometimes attacked by the cotton root rot fungus.

California red scale, rust mite and red spider are the principal insect pests. Practically all the fruit that I saw was russeted and wind-scarred. The russetting can be prevented but preventing the excessive amount of wind-scarring will be much more difficult in this flat country where there are practically no trees or hills to break the force of the wind. Oil spraying seems to be effective in the commercial control of scale but most of the groves are infested.

I find no evidence that arsenic was used during the past season. Some of the growers told me that they used it on the 1930-31 crop but discontinued its use on account of the change in maturity inspection law. Inspection for maturity is now made in each grove instead of at the packing house and public sentiment is so strongly against the use of arsenic that no grower wants it found on his property. There is no law against its use in Texas but public sentiment seems to be more effective than law.

The Texas fruit has a reputation for good eating qualities, and justly so. In my opinion this is due to the fact that most of it is Marsh Seedless and is planted on sour orange root stock. Examination of the records of the maturity inspection service shows that the average analysis of the Texas fruit is practically identical with our Marsh Seedless on sour stock from the coast sections of Florida. The records also showed a very marked increase in acid for the year 1931-32 over 1930-31. This is especially noticeable since they have comparative records of individual groves on practically the same dates of each year. The increase of acid in many cases was as much as twenty-five or thirty percent.

The outside appearance of the

Teas fruit leaves much to be desired. Heretofore most of their fruit has gone on the western market but, unless they have a major disaster, the crop of 1933-34 will be of such volume that they will be forced into the keen competition of the eastern markets where appearance rather than taste is the chief sales factor.

Unless there is a June bloom, which the condition of the trees does not indicate, the crop in Texas will be very light this year. The bloom was killed by frost on March 14th. There has been a scattering bloom since that date but it is not setting well and the grapefruit crop will probably not exceed 3500 cars against about 6000 cars last year. The orange crop looks a little better but will probably not exceed the 1800 cars that were better but will probably not exceed the 1800 cars that were shipped last season. Of course, any estimate of the crop before the June drop is nothing but a wild guess, but my estimate is based on the fact that most of the older groves have very little or no fruit, especially the seed varieties, such as Royal and Duncan, which mature slightly ahead of the Marsh Seedless. Such fruit as is set bloomed so late that it cannot be expected on the market in any volume before December.

In summing up I would say that, in my opinion, Texas will not be a serious factor in the early citrus market this year, at least not before November 15th. If they have favorable weather conditions they will be a most serious factor on any year in which the bloom is not damaged by cold. They have a potential production capacity of fifteen thousand cars of fruit for the 1933-34 crop unless cold damage, lack of fertilizer and salt accumulation cut it down. Salt accumulation is not yet serious in the younger groves and, barring cold damage, we may expect heavy production from Texas for at least five or six years, due to the enormous acreage in young groves. Planting, although slowed down, is still on at the rate of over a half million trees per year, mostly in an area north of Laredo, where fresh artesian wells are available for irrigation. I am told that this area, known as the Winter Garden section, is much colder than

(Continued on page 14)

TRAFFIC MATTERS OF IMPORTANCE TO THE CITRUS INDUSTRY

By J. Curtis Robinson

(Continued from last month)

When the investigation of refrigeration rates to eastern destinations was completed the Interstate Commerce Commission set up a formula for arriving at a reasonable refrigeration rate. This formula provided for an allocation of certain specific amounts for cost of ice, haulage of ice in ice bunkers and the several other factors incident to refrigeration service. The Commission concluded that they would only order specific reduced refrigeration rates published to eastern territory. They said, however, as to destinations north of the Ohio, east of the Mississippi to and including the Buffalo-Pittsburg territory, that it would not be difficult for the railroads to adjust their refrigeration charges to that territory in line with the findings or formula that had been specified by the Commission in arriving at proper rates to eastern territory. The Commission said "and this should be done", meaning that the railroads should reduce our refrigeration rates to that territory lying north of the Ohio and east of the Mississippi to and including Buffalo-Pittsburg territory. The carriers made no reductions and the League now has pending before the Commission a complaint seeking reduction in the refrigeration rates to this central territory similar to that made to eastern territory.

Several years ago the League joined with several other associations, including some of National scope, in an appeal to the Interstate Commerce Commission for an investigation of all the refrigeration rates in the United States. As a result of our appeal the Commission undertook such an investigation, the first of which was from Florida to eastern destinations. The second investigation involves not only refrigeration rates between California and other Pacific Coast states and the east, but includes refrigeration rates between Florida and the Pacific Coast. The hearing in this case, Docket 20769, began at San Francisco, April 4th. The League, representing the growers and shippers of this state, was represented at that hearing by its counsel. That hearing was of particular importance to the growers and shippers of this state because the

question involving the cost of ice supplied bunkers of refrigerator cars at all points in the United States was to be considered. Cost of ice and haulage of ice in ice bunkers constitute about 78% of the total refrigeration charge.

If the carriers, as a result of the hearing in the San Francisco case, should succeed in convincing the Commission that the cost of ice and haulage of ice should be more than that allowed by the Commission in our Eastern Refrigeration Case, then it might be we would get no reductions to northern or western markets and might ultimately have our refrigeration rates increased to eastern markets. Therefore, we participated in this hearing at considerable expense to safeguard as far as possible our growers interests in the ultimate cost for refrigeration to all markets.

Many of our associations and shippers have themselves provided pre-coolers to cool the fruit promptly after packing and enable its shipment under initial icing, only, at a saving in refrigeration of around \$20.00 to \$25.00 per car. Some shippers who were able to purchase their ice for initial icing of cars from local ice manufacturers at origin points, were able to save much more than these amounts. Recently the carriers, apparently in an effort to force shippers to buy ice from their refrigeration agent, the Fruit Growers Express Company, adopted rules refusing longer to permit shippers to switch cars to ice plants for icing and then place them at packing houses for loading.

The League filed protest with the Commission against these rules but they were permitted to go into effect. This action on the part of the initial Florida lines forcing shippers to purchase ice from the Fruit Growers Express Company at a cost in excess of what it can be bought for from local companies, is an unwarranted policy that has already resulted in probably more loss of business to the railroads than will be gained in increased revenues as a result of forcing shippers to use their ice.

Another service Florida needs is the privilege to ship fruit with initial icing and one re-icing in transit. We have had considerable correspondence and one conference recently with railroad and refrigeration company officials, looking toward the establishment of this service. At present, carriers are willing to establish the ser-

vice, but want to charge rates that are only about \$7.50 per car lower than for full refrigeration where cars are iced at all re-icing points in route. We hope to get this service established on rates that are reasonable for the service performed.

The airplane has not yet become a factor in commercial transportation of citrus fruit. We must continue to rely on railroads and steamships chiefly, although lately, with the continued improvement of our roads, the motor truck has become an important factor.

Truck Movement

There will be those who are favorable to and those who are vigorously opposed to transportation by truck. I will not argue the point here but merely say in passing, that in my opinion, truck transportation for reasonable distances is here to stay. Whether growers themselves use it, or do not use it, there is no question in my mind but what the service will continue from now on to be a factor in the transportation of citrus fruit.

The railroads have finally recognized its affect upon their revenues by the quantity moved by truck to southern markets. Recently they reduced the rail rates to many southern markets by 25% but at the same time increased the minimum carload from 360 boxes to 384 boxes. I do not think this will have the desired effect of overcoming truck competition. Trucks haul less than the old 360 box railroad minimum and unless the quantity hauled by the average truck can be equalized by rail at a comparable rate, citrus fruit will continue to move to southern markets in large volume by truck.

There are undoubtedly many markets in the south that are not equipped to hold as much as a carload of citrus but can quickly consume as much as would be hauled on a truck. Unless the minimums by rail can be made equal to what would be the maximum number of boxes hauled by truck distributors in small markets will continue to get fruit by truck either from Florida or from the large markets. At any rate the high rail minimums to southern markets will, in my opinion, not serve to increase distribution to those markets, especially by rail.

I am convinced there is a better solution for retaining more business to the rail lines than increasing the old minimum by 24 boxes and only reducing the rate by 25%. I would advocate further reduction in minimum and rates and the use of ventilated box cars for these short hauls to southern markets. This would have to be supplemented by an arrange-

ment for consolidating the small loads in transit at some concentrating points in the south for shipment of a reasonable minimum carload to northern markets in the event that the small carloads were not ultimately marketed in the south.

The movement of citrus by water, which in the last few years had dwindled to about 5% of the total, revived again this season and withdrew from all-rail movement increasing quantities of citrus traffic. This proved such a threat to the diminished rail revenues, that in February the railroads agreed to a reduction of 18% in their rates to New York and applied that rate to eastern seaboard ports south of New York in an effort to retain to the all-rail haul the majority of the citrus traffic. The steamships immediately followed the rail lines by a material reduction in steamship rates. With the reduction of the citrus rates to eastern port markets, the railroads increased the minimum 84 boxes or to 444 instead of 360 boxes. This makes a larger unit of sale, increased the risk of decay, and makes inspection at destination more difficult, if not impossible. However, it affords reduction in the transportation cost per box of an almost approximately 17 cents per box, on the average, to New York with lesser amounts of reductions to the nearer markets, which is worth saving if it can be done without undue risk of deterioration in transit.

A blanket rate is a rate that covers the country like a blanket covers a bed. California has blanket rates on citrus because the same rate of \$1.55 per 100 lbs. applies from all California origins for citrus to all points in the United States from Denver east. The railroads recently by reducing the New York rate by 18% and applying that rate as maximum to all points intermediate between Richmond, Va. and New York are making their own experiment in the application of a temporary blanket rate to a restricted number of destinations. This does not mean that this blanket rate to New York and points south as far as Richmond, is the same from all Florida origins because there is a lower rate from Crescent City than from Orlando, and a lower rate from Orlando than from Lake Wales and so on. The further the origin is located south of Jacksonville the greater is the charge to New York.

It is my opinion that one of the biggest problems yet to be solved by Florida is to work out with our initial Florida railroads and through them with their northern connections a basis of blanket rates to the mar-

THE CITRUS INDUSTRY

kets on citrus fruit that will give us a more reasonable rate to all markets and will, in my judgment, materially increase our Florida distribution.

While our rates per 100 lbs. and per box are at present from the majority of origins to the destinations to which the majority of our traffic is distributed are lower than from California, they still have a big advantage over Florida in the distribution of their citrus. That advantage lies in the fact that California can move its cars from market to market east of Denver without one cent of additional freight cost, while every time Florida moves a car from one market like Cincinnati to Indianapolis or from Indianapolis to Chicago there is an addition or increase in the rate to the farther market over the nearer market.

It does seem to me it would be of tremendous advantage in the marketing of Florida citrus if we had a blanket rate applying from Florida to all important markets. Perhaps the railroads would not be averse to granting a blanket rate, if we could agree upon the proper rate to be applied. We would of course not be in favor of taking the New York or Chicago rates and applying them back as far as Savannah and Atlanta. To do so would tend to drive the citrus traffic entirely to the trucks for short hauls and to the water lines for distribution to the northern markets. Neither would we expect to take the present rates to Atlanta and Savannah and stretch them out to apply to Chicago and New York. I do believe there is a middle ground which if adopted might prove to be of material advantage to the growers and shippers in the distribution of Florida citrus and equally important to rail carriers by retaining to rail lines much of the traffic which has strayed far afield and is moving to the markets by other means of transportation. The rail lines have the tracks, motive power, and an abundance of equipment. Rather than have it rust out in uselessness it should be put to work. If we can get together on rates that are mutually satisfactory, much if not all of the traffic now lost to the rail haul should be returned to them.

Recently the League appealed to the Coast Line and Seaboard for reduced rates on grapefruit to eastern seaboard ports for export to foreign markets. Some preliminary conferences had been held between some of the shippers and Florida and Eastern railroad lines traffic officials. We have been advised within the last few days by high officials of the Seaboard and Coast Line that they have secured

the agreement of Eastern lines for the publication of rates to Eastern seaboard markets on grapefruit for export which will be 5c per 100 lbs. less than the rates to New York reduced by 18% in February. The new rates will carry a minimum of 458 boxes. All that is necessary now is for the Interstate Commerce Commission to grant permission to publish these reduced rates immediately instead of waiting the usual 30 days.

Ladies and gentlemen, I have tried to outline some of the traffic matters of interest to the citrus industry. There are two which I overlooked commenting upon. One is a complaint recently filed by the League against the rates on citrus to Eastern markets. This involved a failure on the part of the railroads to publish rates on citrus in specific conformity with the order of the Interstate Commerce Commission in our Line Haul Rate Case.

We expect to have these rates adjusted to the exact basis prescribed by the Commission which should make reductions of from 1c to several cents per 100 lbs. to eastern destinations. We have asked for reparation which if awarded should enable our shippers to collect refunds on shipments made within the past two years.

The other case to which I refer is a complaint against our refrigeration rates to destinations north of the Ohio River and East of the Mississippi River on which we have also asked for reparation for overcharges within the last two years.

While my subject deals with traffic matters of importance to the citrus industry, I call your attention also to the fact that the vegetable industry, which is closely allied with the citrus industry, has its traffic problems also. The League since its organization has been able to iron out a great many of the vegetable traffic problems and has saved for the vegetable growers and shippers hundreds of thousands of dollars, annually.

The rates on Florida vegetables are still on a higher level than the rates from competing southwestern and other territories. We have recently filed a complaint on our vegetable rates which will be heard at Atlanta, Georgia, May 13th. We hope to be able to get our vegetable rates adjusted to a more equitable basis.

It should be of interest to you to know that due to the work of the League, the rates on citrus since 1928 have been approximately \$1,000,000.00 less, annually, than they were prior to that date.

That a saving of approximately \$500,000.00 annually, was made in
(Concluded on next page)

REPORT OF CITRUS CONDITIONS IN LOWER RIO GRANDE VALLEY OF TEXAS (Continued from page 11)

the valley and that most of the new planting is navel oranges.

Respectfully submitted,
GRAY SINGLETON,
Chief Laboratory Inspector and Field Supervisor, Winter Haven, Florida.

May 9, 1932.

Honorable Nathan Mayo,
Commissioner of Agriculture,
Tallahassee, Florida.

Dear Sir:

Supplemental to the general report on citrus conditions in Texas which has already been forwarded to your office, the following more detailed report on the probability of the use of arsenic in Texas is submitted. This report is compiled from Bulletin No. 419, of the Texas Agricultural Experiment Station, College Station, Texas, and from personal observation and tests made by the writer. The data on ratio of solids to acid of different varieties is taken from the records of the Weslaco Citrus Sub-Station of the Texas Department of Agriculture, and Mr. Friend, the Superintendent of the station, tells me that no arsenic has ever been used on the trees from which these tests were made.

Grapefruit Marsh Seedless

Date of test	Total Solids	% Acid	Ratio of Solids to acid
Oct. 14, 1929	10.47	1.36	7.69
Oct. 30, 1929	10.47	1.18	8.87
Nov. 19, 1929	10.02	1.13	8.22
Dec. 16, 1929	9.10	1.09	8.34
Feb. 13, 1930	9.05	.98	9.23

Thompson

Nov. 19, 1929	8.32	1.02	8.15
Nov. 26, 1929	8.33	1.01	8.24
Nov. 30, 1929	8.40	.97	8.69
Dec. 16, 1929	8.35	.96	8.69

Foster

Nov. 30, 1929	9.19	1.16	7.92
Dec. 16, 1929	9.37	1.13	8.29

Duncan

Dec. 16, 1929	9.87	1.24	7.95
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McCarthy

Dec. 16, 1929	9.37	1.21	7.74
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Triumph

Dec. 16, 1929	8.98	.73	12.30
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Oranges—Valencia

Dec. 16, 1929	10.33	1.03	10.02
Feb. 13, 1929	11.08	.78	14.20
Mar. 4, 1929	13.22	.80	16.52

Lue Gim Gong

Dec. 16, 1929	9.64	1.38	6.98
Feb. 13, 1930	11.04	.86	12.83

Pineapple

Dec. 16, 1929	10.90	.50	21.80
Mar. 4, 1930	14.53	.56	25.94

THE CITRUS INDUSTRY

Washington Navel

Mar. 4, 1930 14.54 .37 39.29

Dancy Tangerines

Dec. 16, 1929 9.23 .49 18.83

Thornton Tangelo

Dec. 16, 1929 9.73 .59 16.49

It is easy to see from the foregoing table that Texas fruit, grown by the state under conditions that preclude the possibility of the use of arsenic, normally has much less acid than Florida fruit. In fact, the growers in Texas are much concerned about the flat taste of their oranges and some of them are experimenting with applications of sulphur to the soil in an effort to put more acid in the fruit. During my recent trip to Texas not one grower asked about the use of arsenic but dozens asked if I knew how to increase acidity. One large grower told me that a satisfactory method for increasing acidity would be worth a million dollars a year to Texas. Another grower told me that his Navel oranges usually ran 20 to 1, or 25 to 1, before they were ripe enough to ship. I tested his trees for arsenic and found no trace of it. I tested a great many groves, both oranges and grapefruit, where the records showed that they had shipped early or had shown an abnormally high ratio and in no case did I find any signs of arsenic. Several growers told me that they had experimented with arsenic but they were unanimous in saying that its use is not worth while, especially since the new Texas law put a juice content requirement exactly like the Florida law on grapefruit and put the inspection in the grove instead of in the packing house. They all said that any fruit that would pass the juice test would go far over the ratio law, even without arsenic.

The difference in ratio between the Texas fruit and fruit from the Ridge Section of Florida is probably due to alkaline soil on which the Texas fruit is grown. On the alkaline soils of Florida we get much the same effect. By checking the records we find that on November 16th, the average of the fruit tested by the Inspection Bureau last season in Palm Beach County, was as follows:

Acid 1.43; Solids 11.80; Ratio 8.11.

Polk County, on the other hand, where the soils are acid, on the same date had the following averages:

Acid 1.67; Solids 10.52. Ratio 6.30.

Putnam County, on the same date, had averages as follows:

Acid 2.10; Solids 12.16; Ratio 5.79.

We find a similar tendency toward low acidity in the records of all the fruit coming from alkaline soils in Florida, with a corresponding acidity in the fruit coming from the counties

June, 1932

with acid soils. In this connection it must be remembered that the average soil upon which citrus is grown in Texas is far more alkaline than any soil where citrus is grown in Florida, and that the alkalinity of the Texas soil is constantly being increased by the use of alkaline irrigation water. Incidentally, it may be noted that this increase in alkalinity seems to reduce the size of the fruit as well as the acid, both in Texas and in the sections of Florida having alkaline soils.

In summing up, I would say that it is my opinion that Texas is using little or no arsenic, and certainly not enough to be of any commercial significance.

Respectfully submitted,
GRAY SINGLETON,
Chief Laboratory Inspector and Field Supervisor.

TRAFFIC MATTERS OF IMPORTANCE TO THE CITRUS INDUSTRY (Concluded from preceding page)

the refrigeration rates since June 1929.

That approximately \$80,000.00 will be saved, annually, in preventing increase in charges for the use of refrigerator cars for precooled citrus and for top icing of vegetables.

That a saving of approximately \$80,000.00 annually, was affected by preventing an increase in the standard refrigeration charges to eastern territory.

That approximately \$40,000.00, annually, was saved by securing a reduction in the citrus rates to territory intermediate between the Missouri River and the west.

That due to the efforts of the League, State Railroad Commission, and others, something over approximately \$2,000,000.00 was saved the industry in transportation and refrigeration costs by preventing the imposition of the full 15% increase asked for by the Railroads this past summer. If the full penalty had been applied for the two year period, it would have imposed an additional burden on the Florida citrus and vegetable industries in excess of \$4,000,000.00.

In conclusion may I not appeal for an increasing interest in traffic matters affecting the citrus industry. After all, distribution, and the net rate of return to you on your investment in the citrus industry lies primarily in the rate you have to pay for freight and refrigeration and the service you get in return for the rate you pay. Consciously or unconsciously you are all vitally interested in traffic matters that affect the citrus industry.

BLUE GOOSE NEWS

Monthly News of American Fruit Growers Inc.



Edited by The Growers Service Department

BLUE GOOSE CITRUS AGAIN IN ARCTIC

Blue Goose Florida oranges and grapefruit are to figure prominently in another arctic expedition this summer, and largely because of the satisfaction they gave to the members of Sir Hubert Wilkins's submarine venture into Far North last summer.

Florida's brag Blue Goose Valencia oranges and grapefruit therefore will be an important part of the supplies of the expedition which this summer goes into the frozen fastnesses of the Arctic Ocean for the particular purpose of erecting at Cape York in North Greenland territory an imposing monument to the memory of Admiral Peary, foremost of American Arctic explorers and the discoverer of the North Pole.

The monument to be erected will be constructed of stone. It will be sixty feet high, and will constitute a lasting memorial to the intrepid explorer whose persistent efforts resulted in the American flag being the first to be planted at the "top of the Earth".

The expedition will be headed by Mrs. Edward Stafford of Cambridge, Massachusetts, who since her infancy has been known as the Snow Baby, so called because she was born within the Arctic Circle, the daughter of the late Admiral and Mrs. Peary while the Admiral was in pursuit of one of his earlier Arctic explorations.

The expedition sails in the specially equipped schooner *Morrissey*, commanded by Captain Robert A. Bartlett; and in addition to erecting the monument which constitutes its chief purpose will also make some scientific explorations and carry on certain research work.

Credit for this chosen Florida fruit again being selected for the arduous journey amid the floating ice goes to Lawrence Pope, well known Dade County citrus grower whose fruit is handled through Goulds Growers Inc. at Goulds, and sold through the American Fruit Growers Inc. Mr. Pope has a brother who was a member of the expedition of Sir Hubert

(Continued on page 3)

EARL HUNTER IS NOW IN BLUE GOOSE RANKS

Earl Hunter of Winter Garden, for the past eighteen years one of the most prominent factors in the packing and handling of citrus fruits in West Orange County and admittedly one of the outstanding packing house men of the state, now has joined the Blue Goose ranks.

Mr. Hunter has assumed charge of the packing house of the American Fruit Growers Inc. at Ocoee, just a short distance from the place where he achieved his unusual record for success and long service.

He has already taken charge of the Ocoee packing house and preparations for next season's operations there will be under his personal supervision. He has many warm friends among the American Fruit Growers Inc. organization in the state to whom his outstanding work in past years is well known; and all join in wishing him every success and assuring him their fullest cooperation in his new position.

HUBER ON BOARD OF N. Y. FRUIT EXCHANGE

Another dignity and responsibility was added to Howard L. Huber, popular and efficient manager of the American Fruit Growers Inc. organization in New York City when recently he was chosen a director of the old-established New York Fruit Exchange.

This trade organization aims for the betterment of ethics, a reduction in credit losses, and to keep down the costs of marketing and handling fresh fruits and vegetables in the metropolitan area. Among its activities is the issuing of a daily bulletin of much value to its membership.

Mr. Huber long has been prominent in the New York chapter of the National League of Commission Merchants; and is an active and constructive participant in all other trade organizations in the world's greatest produce market.

OPTIMISM IS KEYNOTE AT ORLANDO MEETING

Optimism, both for the successful marketing of Florida's next citrus crop, and for considerably increased handlings through the American Fruit Growers Inc., was the keynote of the meeting held in Orlando on June 1. It was the annual gathering of packing house managers and executives of the Florida Division of the American Fruit Growers Inc. and was held in a private assembly hall of the Angebilt hotel, where during a noon recess luncheon was served to the fifty-eight participants.

The forenoon session was largely given over to technical discussions of packing house problems, and to a survey of crop prospects to which each packing house manager contributed the detailed information of his own particular section. Summarizing these crop reports, the consensus of opinion revealed a very considerable shortage in the coming crop as compared with that of the past season, with every indication that the movement of early oranges and grapefruit from Florida prior to next December 1 can be expected to be far below the movement of similar fruit to the same date last season.

At the afternoon session executives of the Florida Division AFG were heard. Because of the remarkable scope of the information available through the widespread operations of the American Fruit Growers Inc. their statements concerning conditions in other producing areas and general fruit and vegetable crop prospects were heard with great attention.

W. M. Scott stressed the advantage of citrus packing house men keeping thoroughly informed upon the prospective movement into consumption of all other perishable commodities as well as citrus fruits from Florida and elsewhere, and pointed out the large and valuable information available to them through AFG channels.

J. R. Crenshaw spoke of the traffic problems arising under newer shipping conditions, and among other

(Continued on page 3)

BLUE GOOSE NEWS

OF INTEREST to the citrus growers of Florida, each month, contained in four pages of paid advertising from the

**AMERICAN FRUIT
GROWERS INC.**

Florida Division

Sixth Floor, State Bank Bldg.
ORLANDO, FLORIDA



SOME HIGHLIGHTS OF THE ORLANDO MEETING

Nearly sixty men participating. It is a goodly family which the AFG citrus corps in Florida has grown to be in order to keep pace with the organization's ever expanding business.

A. R. Sandlin's information on Texas citrus is certainly complete, as might be expected from this Floridian's two years of service recently as head of sales for the Texas growers.

N. H. Harper point blank refuses to disclose when and where he was renamed "Pete". That has started speculation, and some research may be done.

C. R. Pilkington is the orator deluxe of the Florida Division, but L. L. Chandler can make quite some talk himself.

Dr. E. B. Lytle's graceful little closing speech of appreciation to the management wasn't at all bad either.

Next time we can vote upon who at this meeting had the worst case of stage-fright.

Hard to get much talk out of that Kirby-Gaines-Beatty trio, but they long ago proved their ability for action.

Whatever else he may do, Harry L. Borland always lends dignity to such occasions.

Adv.

And W. M. (the Ramblin') Reck has gotten his finger upon the pulse of AFG operations in Florida.

The experience meeting was the gem of the occasion, particularly that portion where each individual detailed his Greatest Mistake of the Season.

Rather typical of the AFG crowd was the fact that the fellow who hadn't made a mistake was absent.

That C. W. Rodgers isn't such a ten-minute egg after all, when you get him outside his office.

Did you notice Alvin Crutchfield noticing?

F. J. Bohde, a boy from the city who made good in the country.

At any rate we all know how and why C. N. Williams got his nickname.

Whatever else he may know, J. W. Parker knows what's what in Pinellas.

An illustrious papa isn't much handicap to John H. Helms, Jr.

Earl Hunter already beginning to fit into the AFG crowd. Same sort of regular fellow.

Even though his father was an Englishman, H. S. Parkinson complies with all the specifications for a "cracker".

A. G. Warn, the well known p. h. m. with the beautiful front yard, has taken a resolution against talking too much.

And C. J. King, Jr., was doing all the hard work of the day.

BINION AND ROGERS VISIT LARGER MARKETS

Clay Binion, Winter Haven, manager of Winter Haven Growers Inc. and Paul W. Rogers, Maitland, manager of the packing house there of the American Fruit Growers Inc. have returned to Florida from a tour of some of the principal distributing centers of the North, where they were particularly interested in checking the arrival of Blue Goose fruits and vegetables and in observing at first hand the manner in which the American Fruit Growers Inc. handles sales in the auction markets.

Both were strongly impressed by the strength of the market demand for fruits and vegetables under the Blue Goose trademark; and by the paintaking manner in which the large crop of employees of the American Fruit Growers Inc. in each of these markets prepares the way for the sale of the organization's offerings in the auction sales.

At the Orlando meeting of packing house managers on June 1, Mr. Binion told of the manner in which AFG men contact the buyers before each sale in order to assure interest and spirited bidding for AFG offerings when they come up at their scheduled times. He said it was a revelation to him to see how great was the market interest, and the preparations of the buyers to bid, whenever Blue Goose products came up for attention. Among other things, he said he was particularly impressed by an instance which occurred while he and Mr. Rogers were in New York. A carload of California deciduous fruit had been sent to Philadelphia for sale, but it had been deemed wiser to hold it out of the sale there at that time. It was diverted to New York following extended long distance telephone talks between New York and Philadelphia and between New York and California, and then was disposed of to a decided advantage. He said it was interesting to note that the probable cost of the telephoning absorbed all the earnings of the American Fruit Growers Inc. on this particular shipment, but that this item did not seem to cause any hesitation on the part of the men in the markets, or to curb their efforts to cause the shipment to sell to the best possible advantage of the grower.

WINTER HAVEN GROWERS IN ANNUAL ELECTION

The recent annual stockholders meeting and election of Winter Haven Growers Inc., packers of the celebrated Belle of Winter Haven brand which is sold under the Blue Goose trademark in the markets by the American Fruit Growers Inc., named the following directors: John F. May, B. B. Marshall, A. J. Pruden, Prescott Blood, Theron Thompson, R. B. Woolfolk and W. M. Hampton.

The following officers were chosen: R. B. Woolfolk, president and general manager; W. M. Hampton, first vice-president; A. J. Pruden, second vice-president; John F. May, secretary and treasurer and E. H. Lusk, assistant secretary and treasurer.

A formal resolution was passed complimenting Clay Binion, manager of the house during the past season, for the exceptional accomplishments under his management, and expressing the confidence of the stockholders and directors in his conduct of operations.

Over the embarrassed protests of Mr. R. B. Woolfolk, another resolution was enthusiastically adopted expressing the appreciation of all for the support rendered to the local organization by the American Fruit Growers Inc., and the satisfactory service rendered to it in selling its production in the markets during the past season.

BLUE GOOSE CITRUS AGAIN IN ARCTIC (Continued from page 1)

Wilkins into the Arctic last summer in the submarine Nautilus; and who will be a member of Mrs. Stafford's party this summer. It was through this contact that Sir. Hubert Wilkin's citrus supplies were obtained, and those for the Peary monument expedition have been arranged.

The fruit supplied to Sir Hubert Wilkin's party came from the grove of L. L. Chandler, manager of Goulds Growers Inc., and was packed with especial care under the well known Coral Reef brand of that organization, one of the very well known brands sold under the Blue Goose trademark of the American Fruit Growers Inc. So exceptionally well did it carry, and such was its satisfaction to members of that venture that the same course has been followed in arranging the supplies for Mrs. Stafford's expedition. At the time these lines are written the fruit is in cold storage in New York, awaiting completion of the outfitting of the expedition.

Mr. Chandler takes especial pride in this selection of Florida oranges and grapefruit twice in succession to provide Arctic adventurers with their necessary vitamin diet as a preventive against scurvy, the more so perhaps because the fruit in neither instance has been donated, but has been purchased outright as an essential part in the supplies of these expeditions.

OPTIMISM IS KEYNOTE AT ORLANDO MEETING (Continued from page 1)

things pointed out that a saving amounting to almost forty thousand dollars in freight had been made to Florida citrus growers served by the American Fruit Growers Inc. by the use of water transportation during

the past shipping season.

C. W. Rodgers brought out the new policy of the U. S. Department of Agriculture which makes the marketing agency responsible for repayment to the Government of any Government loan upon crops of any growers whose products it sells, and the Government's requirement that such loans be deducted from proceeds before remittances are made to growers. This will necessitate a careful scrutiny of Government loans in each county before remittances are made to growers. "Ignorance of a loan excuses no one," he pointed out. The same speaker also reminded his hearers that the policy of the American Fruit Growers Inc. when making loans or advances to growers is to aid those growers to get out of debt, rather than into it, for which reason advances should be calculated carefully to meet the earning power of those to whom aid is given.

G. D. Wing congratulated the packing house men upon the carefulness and accuracy with which their records were kept. He urged the necessity for promptness as well as accuracy in making returns to the Orlando office in order that the American Fruit Growers Inc. may live up to its earned reputation for accounting to the growers it serves in the speediest manner, as well as in the greatest detail, of any marketing agency.

C. R. Pilkington spoke of the history and the fundamental policies of the American Fruit Growers Inc., which this month completes its twelfth year in the field in which it was the pioneer. He showed the unusual success which has been obtained by the organization by strict adherence to the principles and policies laid down at the time the great selling agency was formed by a consolidation of the then greatest factors in the produce field.

C. N. Williams followed the operations of sales in the auction markets by the American Fruit Growers Inc., stressing the habit of the organization of selling in the auctions only fruit best calculated to bring good returns there, with the result that the AFG sales department has long been able to show a higher percentage of F. O. B. sales than any other similar organization. He also showed the unusual effort which is put behind every AFG sale in auction, the detailed preparation for such sales and the methods used to assure the interest of the trade in the bidding whenever AFG offerings come up for attention.

Allan W. Wilson spoke of the coordination necessary between the

packing houses and the sales department at all times, and demonstrated how results in the markets are directly proportioned to this coordination. He congratulated the packing house men generally upon so handling fruit last season as to allow for obtaining its fullest value in the generally disorganized markets.

R. B. Woolfolk, just returned from a northern trip, told of the very unsatisfactory business conditions generally prevailing more recently in the larger distributing centers of the country; but was optimistic that before the opening of citrus shipping for next season the long expected upturn in national affairs may open the way for the satisfactory selling of next season's short crop from Florida, especially in view of the revealed conditions of the crop in other citrus producing sections of the country.

He told his hearers that the big organization of the American Fruit Growers Inc. had been able to weather the storm in excellent condition. In fact, that the American Fruit Growers Inc. is bigger, better and stronger than at any previous time in its history; and that by accommodating operations to changed conditions it will be able to continue to obtain superior results for the growers it serves, subject only to the state of the buying power of the consuming public.

Among those present were: L. L. Chandler, Goulds; I. E. Springstead, Palmetto; W. G. Chilton, Mims; Frank P. Beatty, Cocoa; Dr. E. B. Lytle, E. B. Walling, Weirsdale; J. H. Letton, Arthur Gunn, J. H. Helms Jr., Valrico; F. J. Bohde, G. M. Cranston, Alturas; E. T. Tedder, Crescent City. A. P. Crutchfield, DeLand; J. W. Parker, Walsingham; O. F. May, Mascotte; Earl Hunter, Ocoee; H. E. Bennett, N. H. Harper, New Smyrna; B. G. Anderson, Paul W. Rogers, Maitland; A. R. Sandlin, Leesburg; Harry L. Borland, Ocala; H. S. Parkinson, Alva; J. H. Whidden, Fort Myers; T. H. Maxwell, B. B. Scarborough, West Frostproof; A. G. Warn, P. P. Commander, Robert Evans, D.B.Rhea, C.N. Leach, Haines City; N. F. Enns, T. S. Kirby, Fort Pierce; R. J. Flynn, Odessa. S. E. Roberts, J. E. Powell, Avon Park; F. B. Smith, Arcadia; Walter J. Merrill, Lakeland; Clay Binion, Alex Warren, Jr., Winter Haven; N. B. Ryal, S. D. Gaines, Wabasso; J. R. Crenshaw, S. Z. White, A. W. Wilson, J. A. Byington, L. M. Stephenson, C. J. King, Jr., W. L. Kolbe, J. L. Gay, G. D. Wing, W. M. Reck, C. R. Pilkington, W. M. Scott, C. W. Rodgers, C. N. Williams, R. B. Woolfolk, Orlando.

AFG Selling Service

Bigger--

Now 225 sales offices in terminal markets selling in more than 1,000 cities and towns in the U. S. and Canada. The largest sales organization in AFG history, expanding not curtailing operations.

Better--

Now 12 years of proven success behind it, more efficient as the result of experience; and with a highly developed export trade in addition to its better domestic service to growers.

Stronger--

Proven through stress of a period of almost unexampled discouragement to American industry. Proven in its ability to give unusual service to producers, the trade and consumers; in its usefulness to the fruit and vegetable industry; and of proven soundness in organization and method.

American Fruit Growers Inc.

Florida Division
Orlando, Florida

IMPRESSIONS

By the Impressionist

One can fill pages with figures, and still fool one's self a-plenty. The which is apropos the great volume of figures recently submitted by the Clearing House management to establish that Florida citrus advertising should be for "Florida oranges," "Florida grapefruit" etc., and not for particular trademarks or brands. Figures to the contrary notwithstanding, experience of the past thirty years in advertising shows clearly the un wisdom of advertising any article which is not standardized, and which the consuming public cannot readily identify.

And who will rise to cite one instance, just a single instance, of a really successful commodity advertising program. The Hawaiian pineapple campaign stuck it out longest, but even that has been abandoned in favor of brand advertising by the various canners. Many, many commodity advertising campaigns have come with a hurrah, and then quietly slipped into obscurity.

A flock of figures taken from the bargain advertisements of stores angling for elusive spare pennies in the midst of the worst period of depression within memory does not necessarily prove anything.

"It has been my experience that generally whatever works in California will not work in Florida; and that whatever works well in Florida won't do in California." It was B. C. Skinner speaking; and he said a mouthful in our humble opinion. All our observation over a period of years confirms it. But we hasten to add that in citrus it has been found there are quite a few things which will not work successfully in either place.

Last month we tried the play on words, Fort Pierce—Port Fierce, but the linotyper wouldn't have it. Wonder how this will turn out?

W. J. Howey in from the hills, and getting a bit heavy about the waist for all the hardships of slipping back and forth from citrus to political role. Buying new trousers in order

to be able to breathe properly for the forthcoming oratorical contest.

General A. H. Blanding pauses on his round of Exchange business to eat lunch in an Orlando restaurant, and we run into him. After lunch we sit down in a hotel lobby in an effort to exchange the news and gossip of our respective families, who once lived as neighbors, but it is a hard job. Too many folks stop to shake hands with him. It is our impression that something like half-million men must at one time or another have served under General Blanding.

Bill Richardson, the well known head of Richardson-Marsh Corp., back from a northern trip; and from his news as to how business was no better there during the term of his stay we get the notion maybe it's a good thing our shipping is for the time being over.

We asked Richard Hoffman, the Altamonte Springs grower who always pays close attention to the stock market, the meaning of the very low prices on railroad stocks—ten dollars for A. C. L. and seventy-five cents for C. M. & St. P. that day. He said, "Receiverships coming sure." Let's hope and trust his guess was wrong.

Meantime we get authentic news that as a result of the big cut in trans-Atlantic steamer passenger rates some of the big ships have sailed recently leaving a disappointed waiting list of overflow customers. Now, we wonder if there is a moral to be drawn from that?

Since the earlier portion of this was written, they have changed the name of the old Richardson-Marsh Corp., Orlando, to Richardson Fruit Corp. The line-up is the same as it has been for some time past with W. E. Richardson, president and Lou Jacobs secretary and treasurer. Clarence Marsh who dropped out about two years ago heads the Marsh-McKenney Fruit Co. at Orlando.

The proposals to tax telegrams and long distance telephone calls promises hardships to growers of perishables. It would probably amaze many mem-

bers of Congress to learn that perishable growers and shippers constitute the largest users of these services in the country; but that is what a telegraph official tells us. One perishable selling agency, for instance, is a far bigger user of the telegraph than is the United States Steel Co. for all the immense operations of the latter.

But the piece of legislation which perhaps reflects the greatest congressional ignorance of conditions outside Washington was passed some time ago, and only comes up for notice as its provisions make themselves felt. This is the requirement that whoever sells or handles the products of any farmer who earlier obtained a Government loan is responsible for the repayment of that loan out of the proceeds of the sale, or up to the amount of the sale. If a commission house in Philadelphia receives an express shipment from some Florida farmer it must either refuse to handle it, or, if it does, it must hold up any proceeds of the sale until a search is made to see if that farmer owes Uncle Sam anything. If by chance remittance is made direct to any farmer who owes such a loan, then the remitter is responsible and must pay Uncle Sam regardless of the fact that the farmer already has been paid. This piece of tomfoolery promises many complications in as much as there are 513,000 such loans now outstanding to farmers.

Times may be hard, but—. The sellers of a certain fertilizer material recently put on a drive to clean up a stock in Florida. The special effort not only cleared up that stock but cleaned out a reserve stock of 500 tons at a nearby port in another state. Last heard from they were drawing on stocks still further away. Even in hard times intelligent advertising pays. The accent should be put upon "intelligent".

John Moscrip of the Exchange has found out what is the matter with his golf game. It seems it isn't his standing too close to the ball when he hits it, but it is the ball being too close to him after it has been hit.

AGRICULTURAL WORK CENTERED AT THE UNI- VERSITY OF FLORIDA (Continued from page 9.)

enormous number of containers filled with canned foods, pickles, jellies, marmalades, jams and crystallized fruits by farm women and girls, according to budgeted family requirements and by scientific methods. This represents more than just canning for it is fulfilling the Live-at-Home ideal and using the surplus to keep cash spent for food as low as possible. It is evident by requests for information, enthusiasm at demonstration meetings and by the well filled pantry shelves that there has been more attention given to this phase of the work than since during the war, if then. Many of the by-products are being standardized for market thus helping the family with the cash income.

Over a period of several years home demonstration agents have at various intervals sponsored county products dinners. It is interesting to see in this connection that civic clubs over the state have entered into the idea of serving All-Florida Products Dinners as a means of helping to relieve depression and unemployment. A great deal of local pride and interest has been aroused by the county products dinners given under the direction of home demonstration women. Products taken from their gardens, poultry flocks, dairies and pantries provided excellent food of great variety and proved to the people themselves that we do have a live-at-home program well under way in Home Demonstration Work.

Beautification of the Home Grounds

In addition to encouraging the women and girls in growing fruits and vegetables to supply food for rural homes and instructing them in the uses of these foods for best returns in the form of good health we are urging the setting of plants which would not only yield fruit, but would serve as ornamentals. Special attention is given to open green lawns, shrubbery, foundation plantings, yards planted according to a plan, improvement of appearance of the place.

Agents have held plant exchanges, led groups of people to woods for native shrubbery, arranged with nurserymen for special rates for members of home demonstration clubs to pool orders and secure prices that could be afforded, particularly for rose bushes. In one county the rural women have planted over 4,000 rose bushes during the past two years.

The county flower idea has been the chief means for getting every one, women and girls, in home dem-

THE CITRUS INDUSTRY

onstration work to plant flowers and perennials. Each one is expected to have growing about her place the county flower. Special shows for exhibiting the county flowers have created much enthusiasm in the various counties which has spread to others than club members. During the year there were 2,885 women and 4,039 girls who conducted demonstrations in beautifying home grounds. Interesting reports and demonstrations of progress in beautification of home grounds can be found in each county where there is an agent.

By way of summary may I say that we are putting into practice the instructions passed on to us from Dr. Seaman A. Knapp, the father of the Extension Service in that we try to teach the rural people greater thrift, to raise their own provisions, to can their surplus vegetables, fruits and meats so that they may have them the year round; that they must put this money into a better home, and so percolating and drifting through this home there will be a broadening element and there will be a gradual uplift of conditions, and as there is an uplift and improvement of conditions the people themselves will become a little broader and a little straighter and a little firmer, till by and by this home society where we must live, this rural society, will be a great dominating force in the land, and we shall become a pattern, not only to our own country, but to all countries, showing how a great and free people were able to readjust their conditions.

June, 1932

COVER CROPS STARTED; GROWERS SHOULD STOP CULTIVATION OF CITRUS

Gainesville, Fla. — Since most of the citrus belt has gotten rain and the cover crops are getting a start it is time to stop cultivation, according to H. G. Clayton, district agent with the Florida Agricultural Extension Service.

To cultivate the grove now and tear up a young cover crop like cro-talaria or beggarweed would almost destroy the cover crop. Plowing through native grasses will also greatly reduce the amount of organic matter they will produce. If fertilizer is to be applied, Mr. Clayton suggested scattering it over the ground and letting the rain take it in.

Growers who are anxious to cut the cost of production, and particularly to lower the fertilizer bill should think quite a bit before they allow the young growing cover crop to be destroyed. It is a well established fact that organic matter is important in a citrus soil and that some kind of a good cover crop is the most feasible way to add the organic matter along with large quantities of organic nitrogen.

CAN FOR UNEMPLOYED

Gainesville, Fla., — About 4,000 quarts of beans were canned here during the last month for the unemployed. The beans were donated to the Red Cross by local farmers. The Red Cross had them picked, and they were canned under the supervision of Mrs. Grace F. Warren, home demonstration agent.

"Black Leaf 40"

Kills APHIS and THRIPS

This "double acting" insecticide has been the favorite spray material of successful citrus growers for the past 20 years. It not only kills Aphids and Thrips by direct contact, but also by nicotine fumes. This is an advantage not possessed by any non-poisonous, non-volatile insecticide.

Recommended By Experiment Stations
"Black Leaf 40" enjoys the endorsement and recommendation of leading growers, Agricultural Colleges and Experiment Stations and editorial writers throughout the country. Being highly concentrated, this reliable insecticide is economical to use as a little goes a long way. Full directions appear on every package. Sold everywhere.

Tobacco By - Products & Chemical Corporation
LOUISVILLE Incorporated KENTUCKY

KILLS BY CONTACT AND FUMES



NEW CITRUS HYBRIDS

(Continued from last month)

San Jacinto Tangelo

(C. P. B. 1213—D; pl. 7)

Tangelos when grown in the coastal districts of California are usually found to produce small-sized fruits, rather mediocre in quality; however a number of tangelos that have been tested at the United States Experiment Date Garden at Indio, Calif., in an extremely hot, dry climate suitable for date culture have produced larger and better-flavored fruits. Apparently the extreme climate of Indio is much more favorable to most tangelos than is the cool coastal climate of California.

The Thornton tangelo does well in the date country, making fruit of fair size and flavor, which ripens between Thanksgiving and New Year's Day. The Sampson tangelo, although sometimes showing slight sunburn of both leaves and fruit, usually produces a fair crop of medium-sized fruit that is juicy and of good flavor.

Several other tangelos have been yielding good fruits, especially a seedling of C. P. B. 1213, this number having shown little promise in Florida because of the "bottle neck" at

the stem end of the fruit and its tendency to become insipid early in the season. The seedling of this number, C. P. B. 1213—D, grown at the Indio garden, however, has produced early ripening fruit of good size and flavor and of better keeping and shipping qualities than the Thornton tangelo growing alongside. The seed parent of this new fruit was a tangelo resulting from one of the early crosses in the same group with the Thornton, which it somewhat resembles.

Because of its first fruiting at Indio, in the general region of San Jacinto Mountain, a famed landmark guarding the pass to the Salton Basin, it is proposed to call this the San Jacinto tangelo.

Technical description.—Fruit round oblate, with slight depression at blossom end, usually with slightly raised area surrounding calyx, not constituting, however, a bottle-neck protusion; size ranging from 3 inches in transverse diameter by 2 3/4 inches in height to 2 1/2 inches in transverse diameter by 2 3/4 inches in height; color orange yellow (Ridgway, orange buff to apurine yellow); rind fairly smooth and thin (about one-eighth

inch), fairly free peeling though not loose; oil cells numerous, very minute and flush surface, with some larger oil cells interspersed and slightly indented; segments 10 to 12, fairly large open core, one-half inch in diameter; seeds fairly numerous, 25 to 30, closely grouped at center, very small and slender, striate, with curved beak and greenish cotyledons; pulp of pale amber color (Ridgway, pale orange yellow), very juicy, translucent, and tender, little fiber, sprightly, subacid flavor resembling the Thornton tangelo but when fully ripe having more character than a fully ripe Thornton tangelo; pulp vesicles irregular in shape and size and near the center more or less split open. Tree evergreen, vigorous, and protective; leaves unifoliate, pointed oval, variable in shape and size, small to medium size (averaging 2 1/2 to 3 inches long by 1 1/4 to 1 3/4 inches wide), petioles very narrowly winged, occasionally without abscission joint.

There are some differences between the seedlings grown under this number (C. P. B. 1213—D) at Indio, showing that this tangelo, unlike the Sampson and most of the citrus hybrids so far investigated, does not come true from seed. In order to

(Continued on page 24)

A FREE BOOK EVERY GROWER AND SHIPPER SHOULD HAVE



CONTAINS complete information on ETHYLENE—the magic gas which hastens ripening of matured fruits. Learn how to profit with it. Ethylene increases profits, reduces loss, saves time. Write for your copy of "Ethylene for Coloring Matured Fruits and Vegetables" today.

CARBIDE AND CARBON CHEMICALS CORPORATION

30 East 42nd Street, New York City

1310 Santee Street, Los Angeles

114 Sansome Street, San Francisco, California

Warehouses in Los Angeles, Tampa, Jacksonville, and other principal cities

Unit of Union Carbide **UCC** and Carbon Corporation

The Best Market In Florida

Is made up of the citrus growers of this state.

The logical medium through which to appeal to this group is

The Citrus Industry

because it is addressed solely to this group of readers.

A lot of advertisers have already learned this.

—A trial will convince you of the wisdom of this course.



William Edwards, Zellwood, Florida, recently elected president of the Florida Citrus Exchange. Mr. Edwards is one of the leading citrus growers of the state.

CITRUS COMMENTS (Continued from page 6)

scab at about the same size, or smaller. The date at which fruit will reach immunity will vary from year to year, depending on the blooming period, the rate the fruit develops and the amount of moisture. When the blossoming period extends thru several months it is easily possible to have both susceptible and immune fruits on the tree at the same time. This is especially true during the present season, when we have both large and small fruit on the same tree, as in some groves bloom is still showing.

Since susceptibility of grapefruit to scab ceases at about the same stage of development as for melanose after fruit reaches a size about 2" in diameter it is rarely further infected.

The severity of a scab infestation like that of melanose is tied in directly with the amount of moisture. The need for scab control therefore will vary according to the amount of moisture occurring while the fruit is susceptible. Round oranges fortunately are not commercially susceptible. But grapefruit is very susceptible as are some other commercial varieties of citrus. In scab control as in melanose Bordeaux is the most effective remedy, but its use is attendant with the same consequences, i. e. a serious increase of scale insects. It is not to be recommended unless the program also allows for subsequent oil-emulsion sprays for scales besides the combination in the bordeaux it-

THE CITRUS INDUSTRY

self of an oil-emulsion.

During a very unfavorable season (wet) the length of time during which a Bordeaux-oil remains effective is very short. This period is all too short to give an effective control of either melanose or scab whether Bordeaux or lime-sulphur is used.

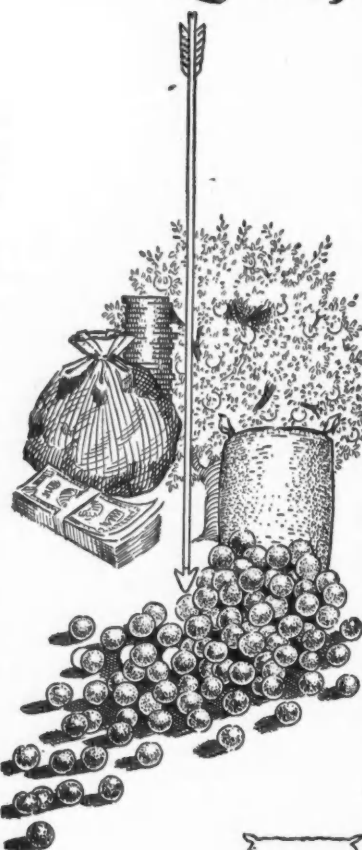
Scab has been effectively handled with lime-sulphur where the program was carefully planned and well executed. This fact makes a lime-sulphur spray program for grapefruit a feasible setup. It eliminates the risk of subsequent serious scale and

whitefly infestation, resulting from the use of a fungicide. It permits of the important secondary advantages of improved skin-texture, uniform ripening and does not store up future troubles, for a year or two hence. The effectiveness of the program depends on the thoroughness with which an extra strong dormant spray is made before growth starts in the spring. This spray should be on the basis of a one to twenty or as close to this strength as seems safe at the time it is made.

Under such a program the spray

PROFIT VS COSTS

*Quality.... Your Assurance
of lowest possible Cost*



Today most growers realize that they are manufacturers, too, faced with many of the same production problems. Both growers and manufacturers are checking costs carefully. However, neither can afford to cut costs to a point where the quality of their product will suffer.

Experiments have shown that crops respond in quality proportion to the quality and kind of plant food supplied them. If they are deprived of proper food in an effort to save in production cost, the result is usually a much greater loss through reduced quality and yield. That's why so many growers rely on the many standard, demonstrated brands of Armour's BIG CROP Fertilizer.

Get the jump on your neighbors who are trying to cut corners by using so-called "cheap" fertilizer this year. Use the business foresight of a manufacturer and weigh profit against costs. Give your crops a better chance by using a standard brand of Armour's BIG CROP Fertilizer; for quality yield is your assurance of lowest possible growing cost.



Our field representatives will gladly make recommendations based on the requirements of your crops.

**ARMOUR'S
BIG CROP
FERTILIZERS**
ARMOUR FERTILIZER WORKS
JACKSONVILLE, FLORIDA

June, 1932

setup would be lime-sulphur straight thru the year. Or at most if conditions demanded a bordeaux-oil it should be sandwiched in between other sprays at the time it will give best protection to the newly set fruit. Even if this is done it will likely prove necessary to make straight oil-emulsion control for scale in June or July instead of continuing with lime-sulphur.

The summary for Lime-Sulphur would be, use it even where a bordeaux seems necessary except when the bordeaux is to be followed with an oil-emulsion. And of course never use a bordeaux without an oil-emulsion mixed in it. Lime-sulphur an effective control for rust-mites in all stages, for six spotted mites and for

THE CITRUS INDUSTRY

red spiders. It is an effective control for scale crawlers, for whitefly crawlers and for exposed egg masses. It is also effectively combined with other materials for aphid control but not for further fungicidal efficiency. It can be effectively worked in as a part of a spray program setup. It can be used in scab control and insect control as the sole material with which spraying is done if the work is very thorough. It does not permit an increase of scale insects or of whitefly. Secondly it aids in scale control in killing the crawlers just after they have hatched out and are wandering around preparatory to settling down. It promotes a vastly improved skin texture on fruit. It will give bright fruit. It does not delay or in-

Twenty-three

jure uniform maturity of fruit. It will not injure the bloom when sprayed into the bloom direct. New growth is not easily injured from a lime-sulphur spray.

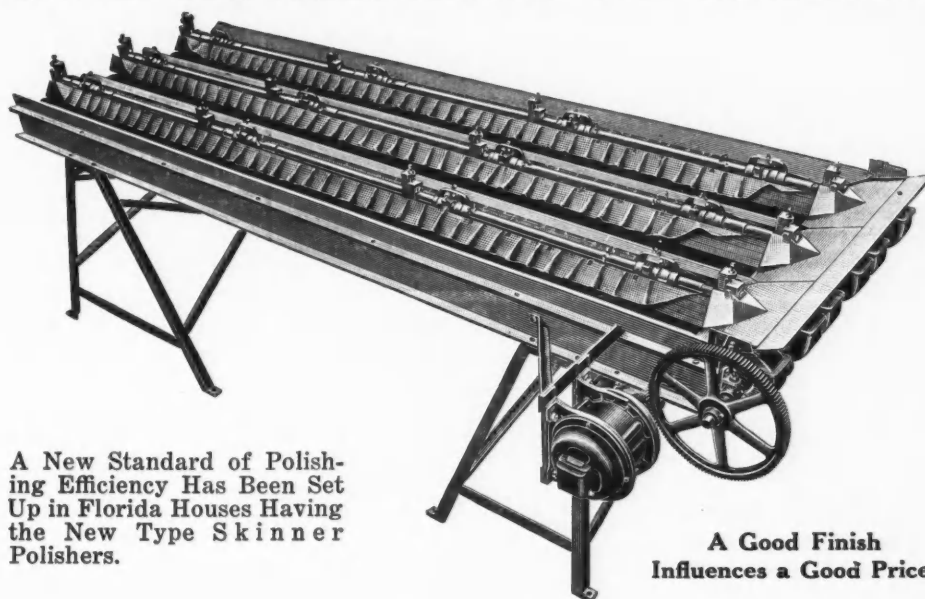
More detailed and specific results of experiments can be obtained regarding melanose and scab from the U. S. Laboratory at Orlando, or from the State Experiment Station at Gainesville.

"Where y' going?"

"To the engraver's."

"Who's being buried?"—Texas Ranger.

The man from whom a dog shrinks is never popular with the children.



A New Standard of Polishing Efficiency Has Been Set Up in Florida Houses Having the New Type Skinner Polishers.

A Good Finish Influences a Good Price

Moderd Equipment Reduces Packing Costs

Reducing packing costs is but a question of improved equipment that will do the job quicker and better and with less help. Obsolete equipment has no place in the modern packing house. It is like using an old car—you are paying for a new one but riding in the old.

Fruit is sold on its appearance. Beauty may be only skin deep but that is deep enough.

Make your package look attractive, doll up your fruit with a fine shine and you will get more money for it.

Before buying new equipment of any kind be sure to get our proposal. A quarter of a century manufacturing packing house equipment for Florida use has enabled us to produce machines of wonderful efficiency and durability.

FLORIDA CITRUS MACHINERY CO.

Division Food Machinery Corporation

B. C. Skinner, Pres.

Dunedin, Florida

AGRICULTURAL EXTENSION WORK BY COUNTY AGENTS

(Continued from page 4.)

his hogs intelligently. County agents have arranged for cooperative sales and regular marketing days. This too has had its ups and downs because of fluctuating prices but even with the present low prices pork production compares favorably with almost any agricultural pursuit of that territory. The marketing of livestock has been a cooperative arrangement between the Extension Service and the State Marketing bureau.

The farmers of that section have been sowing carpet grass seed and putting in other improved pastures, converting idle lands into permanent pastures.

There are many other details in this program but this is sufficient to present a general program for livestock improvement.

Soil Improvement

It is clear to anyone that we have production problems due to soil conditions. With this in view the extension service has emphasized a soil improvement program. Throughout all north and west Florida a large acreage of winter Austrian peas and vetch have been planted to turn under on land to be used for staple crops. Where the crop was managed properly, this practice has almost doubled the yield of corn that followed. It requires inoculation and must be planted in favorable weather and soil conditions. Several car loads of Austrian peas and winter vetch have been procured in the last three years, practically all bought through cooperative orders. Some years have been more successful than others. In the central and south Florida territory those of you who have passed through the citrus area have observed large acreages of crotalaria planted in groves. This effort has been made for the sole purpose of increasing the productiveness of groves by soil improvement. Formerly the seed was very scarce, costing from \$.75 to \$1.00 per pound but by cooperative pooling of orders by county agents many tons of seed were brought in from Porto Rico at 16c and this low price has given it a good distribution.

During the last two years the growers have gathered their seed and this year there is an abundance of crotalaria spectabilis for sale. In DeSoto county alone the county agent has fostered the movement and the growers have about 80 tons for sale. This has been a soil improvement program that has been very far reaching and when incomes from groves are uncertain, it is a big help in reducing fertilizer costs. This effort has been

THE CITRUS INDUSTRY

sponsored by the Extension Service through county agents and we think it is a good piece of work.

Two years ago we were able to increase the Extension Service by adding an Economics department. This was organized in two divisions, marketing and farm management. The farm management projects are set up to procure records of production including the costs and return. Two extension specialists make their connection with grove owners through the county agents and get the data on active grove management, endeavoring to find out the most economical practices. Considerable data has been collected on this, fertilization, management, costs and returns. This must be carried on several years in order to make it fully authentic, considering the many factors that influence grove production. In the marketing phase of this work, the extension service has not made any plans to duplicate the work of the state marketing bureau but to study successful marketing methods. This work is being pushed because of the large production and unsatisfactory marketing and apparent need of reduced operating expenses for when citrus fruits sell for an average of \$2 per box on the tree, the cost of minor operations are not considered seriously by the grower but with prices that prevailed during the last 18 months any unnecessary expense must be eliminated to make it profitable.

A study has been made of the harvesting methods of Irish potatoes in the Hastings section by the collection of data from producers.

The farm management section has given special attention to the poultry production and has collected many records. The purpose of this is to determine the most economical practices—it is evident a poultry producer must have a sufficient number of birds to warrant the expense of his operations. He must use good marketing practices and follow economi-

cal methods in feeding, in addition to having high producing birds.

These studies and this type of demonstration work have been emphasized due to the general depression and it is evident that with the increased production that is found on every hand, the farmers must consider the cost of production more than they have in the past.

I have not discussed the boys' club work, as much of this information has been passed out heretofore. In order to carry this on successfully there must be a driving force in the county and that driving force is the county agent's efforts. 4-H club work has given a stimulation to extension work and has met with the approval of almost every institution. Commercial companies have awarded prizes. Boys and girls have been permitted to spend a week at the University of Florida where they receive special instruction at a short course. The United States Department of Agriculture holds a camp once a year where the picked boys and girls from over the country come together for a week. The extension service has club camps and club rallies at appropriate times. Time will not permit me to go further into detail.

The extension service also conducts "Farmers Week". The attendance has been running from 1000 to 1600 per year. This occasion affords an opportunity for a large number of people to acquaint themselves with the college of agriculture and the university as a whole.

NEW CITRUS HYBRIDS

(Continued from page 21.)

connect this new variety with the parent tree producing the best fruit, it is here recorded that the parent tree producing the best fruit, is No. 38 in row 7 of the citrus experimental planting located at the United States Experiment Date Garden, Indio, Calif.

(Continued next month.)

Conditioned 200 Mesh

Acme Dusting Sulphur

Free Flowing — Non Lumping — Non Caking

Don't Rely on Sulphur of Unknown Fineness If You Want Results

RUST BRAND

Tests 99% Passing 200 Mesh — 97½% Pure

Southern Acid & Sulphur Co., Inc., St. Louis, Mo.
R. W. A. Duncan, State Repres., Frostproof, Fla.

CITRUS INSECT CONTROL

(Continued from page 7)

aphid. As during previous years a 2% dust of Black leaf 50 has also given equally as good results as a 3% dust of Black leaf 40. This has been found to be true not only in the case of the citrus aphids but Mr. Goff, working on the melon aphid on watermelons, obtained the same results; i. e., a 2% dust of Black leaf 50 is as effective as a 3% dust of Black leaf 40, and appreciably cheaper.

We still find many growers when dusting or spraying for aphids applying the dust or spray too late. Growth which has commenced to reach maturity is not worthwhile to dust—growth which is nearly full-grown. You may kill the aphids all right but they would have left such growth in a few days anyhow and the damage has largely been done. The circumstances under which aphids do most damage is when growth is very young and small, as you see from this specimen, just more points or projections from the stems, hardly differentiated into leaves and stems as yet. A single winged aphid alighting on such growth and starting reproduction at her usual rate of six young a day, can easily prevent the development of such a sprout.

Mr. Thompson has been carrying on at Lake Alfred and other parts of the citrus belt some very interesting work on the effect of lime-sulphur solution on the crawlers of scale insects, particularly the crawlers of purple scale. Tests on a small scale showed that scale crawlers and the first anchored instar of the purple scale will be killed by a lime-sulphur spray 1-40. Following this hint some tests were made in several groves last summer looking toward the possibility of holding the purple scale in check by frequent applications of lime-sulphur. This work must be carried on several seasons before we can make any recommendations as to its practicability but we feel that the growers should know that a spray of lime-sulphur applied, for instance, for rust mites, will kill very young scales and will have an appreciable effect in preventing an outbreak. This point might well be taken into consideration when a grower is weighing the advantages and disadvantages of spraying with lime-sulphur for rust mites as compared with dusting with sulphur. In groves sprayed three or four times with lime-sulphur at intervals of a month or six weeks we were able last season to hold the purple scale in check. However, these spraying were timed to catch the largest number of crawlers, i. e., a close watch was kept on the

THE CITRUS INDUSTRY

purple scale for crawlers and the spraying started when crawlers appeared in large numbers, which was early in May. In some plots the spray was applied once a month and in others once every six weeks or two months between sprays. In some of these sprays an excess of lime was added and on some trees lime alone was sprayed on at the rate of 10 to 20 pounds per 100 gallons of water. On these trees sprayed with lime alone there was in every case a very marked increase in the amount of purple scale. Mr. Thompson is carrying on at Lake Alfred some experiments on poisoning ants in citrus groves. This is done with the idea of seeing what effect, if any, they have on mealybugs and cottony cushion scale. Also with the idea of perhaps aiding in the establishment of the *Cryptolaemus* and *Leis* ladybeetles in these groves. So far the chief result has been much satisfaction expressed by those who picked the fruit or worked in this section of the grove.

One hundred hens, laying heavily, will transpire three or four gallons of water as vapor in a day. The non-layers will give off about half this amount.

Twenty-five

**POLK COUNTY GROWERS
VISIT CITRUS STATION**

Lake Alfred, Fla.,—More than 200 Polk County citrus growers met here last week for a program of talks about citrus production and for a visit of the Citrus Experiment Station. Plans for the meeting were made by County Agent Frank L. Holland and S. F. Poole, local grower.

A tour of the experiments at the Experiment Station was made under the leadership of J. H. Jefferies, superintendent, who also gave a demonstration in budding and topworking citrus.

Among the speakers were E. F. DeBusk, citriculturist, and H. G. Clay-Agricultural Extension Service, and J. R. Watson, entomologist, Dr. R. W. Ruprecht, chemist, and Dr. B. R. Fudge, assistant chemist, with the Florida Experiment Station. Among the topics discussed were fertilizers, cultivation, cover crops, soil acidity, insects, the outlook, and propagation.

Pour boiling water over potatoes before baking them and let them stand for 20 minutes. They will bake faster and be more mealy.

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Time MUST Tell

Better
crops for less
money; ask any
user of Chaco.





NORMAN H. VISSERING

Prominent citrus factor of Babson Park made the high race for the office of representative from his district and goes into the run-off in the June 28th primary election against M. R. Driver of Auburndale.

"My foot's asleep. What shall I do?"

"Nothing; don't you know enough to let sleeping dogs lie?"
—Brown Jug.

Child (In bus to stranger) Daddy, Daddy!

Mother: Hush, darling. That isn't Daddy. It's a gentleman. — Biddlebury Blue Baboon.

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MISCELLANEOUS

DUSTER — Niagara, Air-Cooled engine Steel truck-mounted. Nearly new. Half price. Samuel Kidder, Monticello, Fla.

SEEDS—ROUGH LEMON, SOUR ORANGE, CLEOPATRA. Pure, fresh, good germination. Also seedlings lineout size. De Soto Nurseries, DeSoto City, Fla.

FANCY ABAKKA pineapple plants. R. A. Saeger, Ancona, Florida.

THE CITRUS INDUSTRY

HIGH BLOOD PRESSURE easily, inexpensively overcome, without drugs. Send address. Dr. J. B. Stokes, Mohawk, Fla.

CROTALARIA SPECTABILIS—Seed for sale. New crop, well cured, bright and clean. Price 25c per pound in 100 pound lots and over, 80c per pound in less quantities, f. o. b. Hastings, Bunnell, Lowell and San Antonio, Florida. F. M. LEONARD & COMPANY, Hastings, Florida.

SCENIC HIGHWAY NURSERIES has a large stock of early and late grapefruit and oranges. One, two and three year buds. This nursery has been operated since 1883 by G. H. Gibbons, Waverly, Fla.

RAISE PIGEONS—Profit and pleasure. Illustrated descriptive catalogue postage six cents. Vrana Farms, Box 314a, Clayton, Missouri.

ORANGE PACKERS ATTENTION — Two chemical transparent flexible orange coating processes for sale; royalty or license basis. Patent pending. Dr. C. V. Berry, 251 West 111th Street, New York City.

PUREBRED PULLETS FOR SALE—White Leghorns and Anconas ready to ship. Barred Rocks and R. I. Reds shortly. Several hundred yearling White Leghorn hens now laying 70%. Write or wire for prices. C. A. Norman, Dr. 1440, Knoxville, Tenn.

LAREDO SOY BEANS, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

WANTED—RESIDENT SOLICITORS

to contact Grape Fruit & Orange packers & shippers, for one of the oldest receivers and Auction Specialists in New York. Address "C.B." P. O. Box 415, Tampa, Florida.

HARDY AUSTRALIAN PINE (Casuarina Cunninghamiana)—Best windbreak; border and avenue trees, rapid growth, invaluable for landscaping estates, parks, etc. Guaranteed true strain 20, 25 and 30c each. Quantity discount ten percent. May is good month for planting. Griffing Nurseries, Biscayne Park, Miami, Fla.

WANTED—To hear from owner of land for sale. O. Hawley, Baldwin, Wis.

SATSUMA BUDWOOD from Bearing Trees. Hills Fruit Farm, Panama City, Fla.

WANTED—To hear from owner having good farm for sale. Cash price, particulars, John Black, Chippewa Falls, Wisconsin.

SEED—Rough lemon, sour orange, cleopatra. New crop from type true parent trees. Also thrifty seedlings. DeSoto Nurseries, DeSoto City, Florida.

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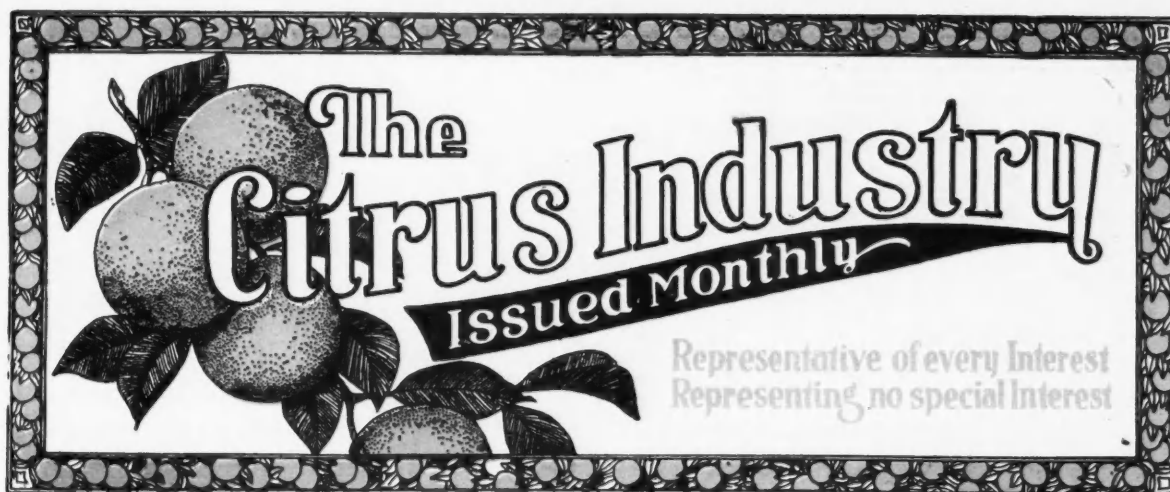
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Vol. 13 No. 7

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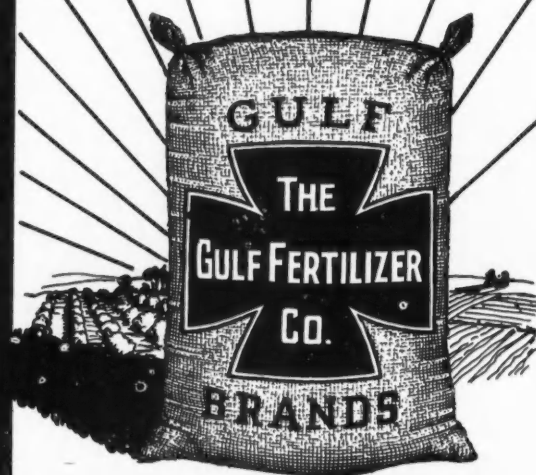
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Especially Referring to Production Costs

By C. V. Noble

Further Studies On Hydrogen-ion Concentration In
Citrus Grove Soils—In Ridge Section

By B. R. Fudge

Important Advance In Preparation Of Citrus Juice
The Temple Orange And Its Culture

By Albert DeVane

Citrus Fruit Trees Require Nitrogen

The Basis of Plant Quarantines

By Dr. Wilmon Newell

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Citrus Comments

By Chas. D. Kime

Impressions

By The Impressionist

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